

## **1.9 Managed Operation, Maintenance, and Monitoring**

Revision: May 18, 2016

Operation, maintenance, and monitoring (OMM) may be required for any system specified by the Director. The Director may specify OMM as a condition of a product's design approval (IDAPA 58.01.03.009.03) or as a condition of issuing a subsurface sewage disposal permit (IDAPA 58.01.03.005.14). This section lists out the Director specified OMM requirements. Managed OMM is performed by an Operation and Maintenance Entity (section 1.6) or a certified service provider.

### **1.9.1 Managed Operation and Maintenance**

Operation and maintenance (O&M) refers to the direct access to a subsurface sewage disposal system to provide planned or reactive activities that are necessary to ensure efficiency, effectiveness, and sustainability of the system. Managed O&M is required for systems the Director has determined necessitate professional oversight to ensure the systems operate according to the rules (IDAPA 58.01.03) and system specific recommendations provided by the Technical Guidance Committee (IDAPA 58.01.03.004.10). When managed O&M is specified for a system the following requirements shall be met (IDAPA 58.01.03.005.14 and 58.01.03.009.03):

1. Annual maintenance shall be performed on the system as described in the manufacturer's O&M manual submitted under section 1.4 or 1.6.
  - a. Systems that are incorporated into an engineered design shall also follow the minimum O&M requirements set by the design engineer.
  - b. Additional maintenance not specified in an O&M manual may be required to ensure the system functions properly.
2. Records for each O&M visit shall be kept and should include the following information for the primary maintenance visit:
  - a. Date and time.
  - b. Observation for objectionable odors.
  - c. Observation for surfacing of effluent from the system or drainfield.
  - d. Notation as to whether the system was pumped since the last O&M visit including the portions of the system pumped, pumping date, and volume.
  - e. Sludge depth and scum layer thickness in the system's tanks and/or treatment unit.
  - f. If responding to an alarm event, provide the cause of the alarm and any maintenance necessary to address the alarm situation.
  - g. Field testing results for any system effluent quality indicators included in the system's approved sampling plan (if required) or as recommended in section 1.9.2(2).
  - h. Record of any cleaning and lubrication.
  - i. Notation of any adjustments to control settings or equipment.
  - j. Test results for pumps, switches, alarms, and blowers.
  - k. Notation of any equipment or component failures.
  - l. Equipment or component replacement including the reason for replacement.

- m. Recommendations for future service or maintenance and the reason for the recommendations.
- 3. Any maintenance occurring after the primary maintenance visit should only record and address the reason for the visit and the associated activities that occur.

### **1.9.2 Managed Monitoring**

Monitoring refers to the requirement for effluent sampling and analysis of wastewater discharged from a treatment system prior to the effluent entering the drainfield. Managed monitoring is required for systems that the Director has determined necessitate field verification of the system's performance to ensure effluent quality limits are being met. When managed monitoring is specified for a system the following requirements shall be met (IDAPA 58.01.03.005.14 and 58.01.03.009.03):

- 1. Effluent quality shall be monitored annually for all systems specified by the Director.
- 2. Annual monitoring included in the annual report must occur within the reporting period (Figure 1-1).
- 3. Effluent monitoring may be done for a group of treatment systems from a common dosing chamber resulting in the sample from the common dosing chamber being applied to all of the associated systems if:
  - a. Annual O&M is performed and documented as described in section 1.9.1 for each individual treatment system, and O&M records are submitted for each individual treatment system as described in section 1.9.3.
  - b. All of the treatment systems connected to the common dosing chamber are from the same manufacturer or are the same engineered alternative treatment system design.
    - i. If there are multiple manufacturers' units or multiple engineered alternative treatment system designs connected to the common dosing chamber, then each system must be monitored individually.
    - ii. If there are multiple common dosing chambers discharging to a single drainfield, then each common dosing chamber must be monitored.
    - iii. If there are any individual manufacturers' units or engineered alternative treatment system designs discharging to the same system independently of a common dosing chamber, then those individual units must also be monitored.
  - c. If the effluent sample from the common dosing chamber does not meet any one of the required effluent constituent levels for the system, then each individual treatment system connected to the common dosing chamber must be sampled independently for the failing constituent to determine what individual systems do not meet the effluent monitoring requirements.
    - i. Individual systems that do not meet the effluent constituent levels upon individual sampling must follow the O&M and retesting requirements described in item 11 below.
    - ii. Individual systems that do meet the effluent constituent levels upon individual sampling do not need to continue with the O&M and retesting requirements.
- 4. DEQ recommends that prior to collecting effluent samples from a treatment system for laboratory analysis that effluent quality indicators be field tested as described in the

system's approved sampling plan. Recommendations included in this section are recommendations only and should be verified with the treatment technology manufacturer or design engineer as acceptable with their field sampling plan and as suitable effluent quality indicators. Field testing is recommended to include, but may not be limited to the following:

- a. Visual examination for wastewater color, odor, and effluent solids.
- b. Constituents shown in Table 1-1.

**Table 1-1. Recommended field testing constituents for effluent quality indication.**

<u>Constituent</u>	<u>Acceptable Range</u>
<u>pH</u>	<u>6 to 9</u>
<u>Dissolved oxygen</u>	<u>≥2 mg/L</u>
<u>Turbidity</u>	<u>≤40 NTU</u>

Notes: milligram per liter (mg/L); nephelometric turbidity unit (NTU)

5. Monitoring samples provided to a laboratory will analytically quantify that the treatment system is operating in compliance if samples do not exceed:
  - a. 40 mg/L (40 ppm) for CBOD<sub>5</sub>
  - b. 45 mg/L (45 ppm) for TSS
  - c. Permit specific levels stipulated on the installation permit for nitrogen as described in item 6.
  - d. Permit specific levels stipulated on the installation permit for other constituents of concern that may be determined on a case-by-case basis
6. For those systems installed in areas of concern, including nitrogen sensitive areas, or are used to fulfill NP evaluation results and requirements, the following total nitrogen related constituents may be monitored to determine total nitrogen concentration:
  - a. Total Kjeldahl nitrogen (TKN)
  - b. Nitrate-nitrite nitrogen (NO<sub>3</sub>+NO<sub>2</sub>-N)
  - c. Results for total nitrogen (TN = TKN + [NO<sub>3</sub>+NO<sub>2</sub>-N])
7. Results for monitoring samples that exceed the stipulated levels on the installation permit indicate the treatment system is not achieving the required reduction levels.
8. Effluent specific constituents that must be monitored for a treatment system will be specified in the treatment system specific guidance in section 4.
9. Monitoring samples will be collected, stored, transported, and analyzed according to the latest version of *Standard Methods for the Examination of Water and Wastewater* (Rice et al. 2012) and other acceptable procedures:
  - a. Each sample will have a chain-of-custody form, identifying, at a minimum, the sample's source (street address or installation permit number), date and time of collection, and the person who extracted the sample.
  - b. Chain-of-custody form should also specify the laboratory analyses to be performed on the sample.
  - c. Sample storage and transport will take place in appropriate containers under appropriate temperature control.

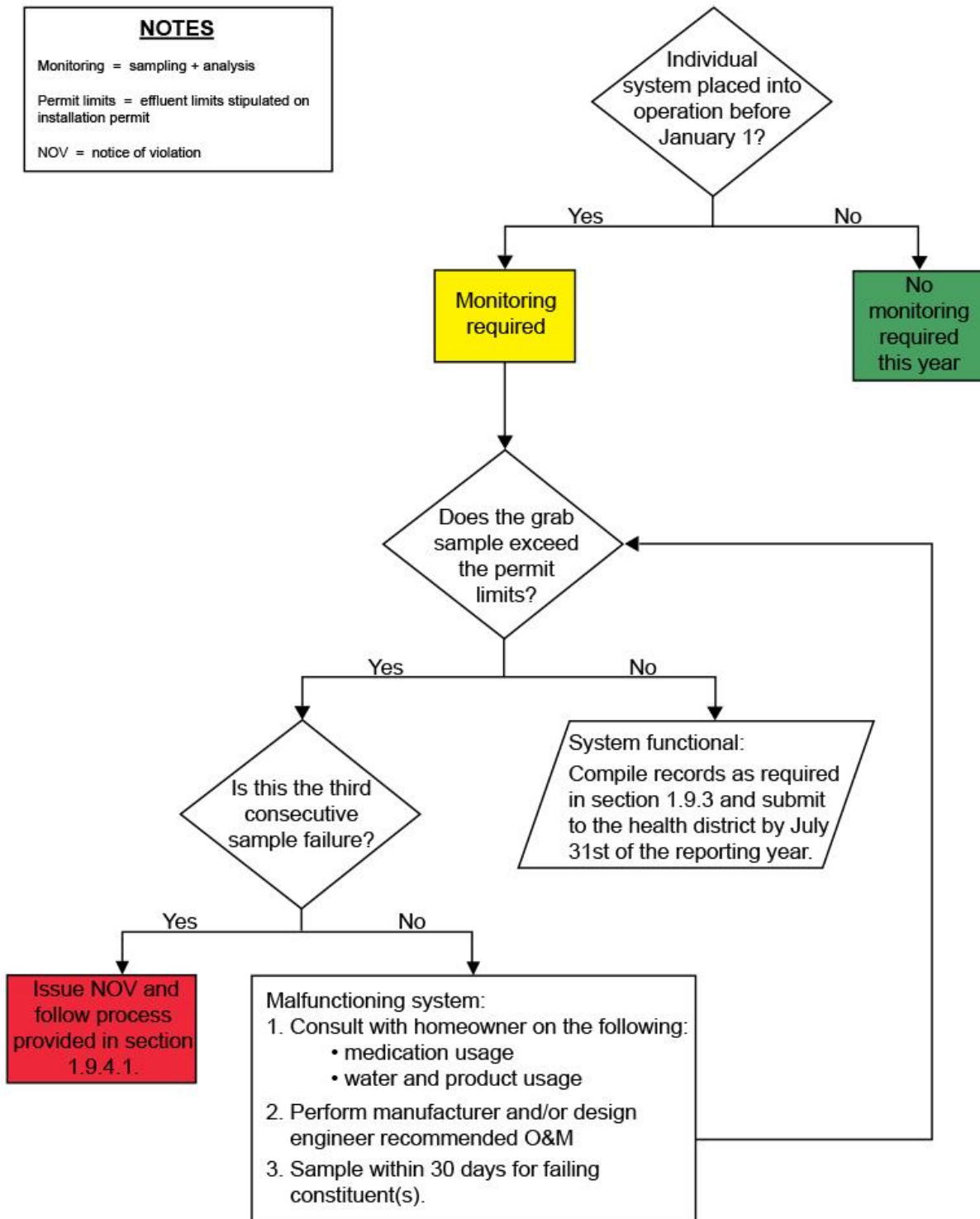
10. Sample analysis will be performed by a laboratory capable of analyzing wastewater according to the acceptable standards identified in Table 1-2, and the monitoring results will be submitted as part of the annual report to the local health district.
- a. Effluent analysis shall be performed using the standards in Table 1-2 from the *Standard Methods for the Examination of Water and Wastewater* (Rice et al. 2012) or the equivalent standards from EPA.
  - b. Annual reports submitted with laboratory analysis results differing from these standard methods will be rejected.

**Table 1-2. Standard methods required for the analysis of ETPS effluent in annual testing.**

<u>Analysis</u>	<u>Standard Method Number</u>	<u>EPA Method Equivalent to Standard Method</u>
<u>Total suspended solids (TSS)</u>	<u>SM 2540 D</u>	<u>—</u>
<u>Carbonaceous biological oxygen demand (CBOD<sub>5</sub>)<sup>a</sup></u>	<u>SM 5210 B</u>	<u>—</u>
<u>Total Kjeldahl nitrogen (TKN)</u>	<u>SM 4500-N<sub>org</sub> B</u>	<u>351.2</u>
<u>Nitrate-nitrite nitrogen (NO<sub>3</sub> + NO<sub>2</sub>-N)</u>	<u>SM 4500-NO<sub>3</sub><sup>-</sup> F</u>	<u>353.2</u>

a. Person requesting the analysis from the laboratory must specify the CBOD<sub>5</sub> on the chain-of-custody form.

11. Samples failing to achieve the required effluent constituent levels shall require the following:
- a. Additional O&M within 15 days of the failed sample results as determined by the date provided on the laboratory form.  
If additional O&M or component replacement is necessary as determined from this service, then the reason, maintenance necessary, and dates must be provided as part of the service record.
  - b. Additional sampling to demonstrate the O&M performed successfully restored the treatment system to proper operation.
  - c. Sample extraction and analysis needs to occur within 30 days after servicing the system (as determined in item 11.a above).  
The 30-day time frame for sample extraction will begin based on the last documented O&M visit required under item 11.a above.
  - d. A maximum of three sampling events, within 90 days (as determined from the last documented O&M visit from item 11.a above), will be allowed to return the system to proper operation. Failure to correct the system within this time frame will result in the system being classified as a failing system (section 1.9.4.1, Figure 1-2).
  - e. If an annual report, as described in section 1.9.3, for a system identifies that an effluent sample fails to meet the limits stipulated **on the installation permit**, and the required resampling of the system did not occur, then the regulatory authority will issue the “Failure to Resample” letter provided in the DEQ program instruction “Extended Treatment Package System Program Letters.”  
If resampling as described in this section does not occur by the date provided in the Failure to Resample letter, then the actions will be considered a refusal of service as described in section 1.9.5, and the enforcement procedures provided in section 1.9.5 shall be followed by the regulatory authority.



**Figure 1-1. Individual treatment system sampling process.**

### **1.9.3 Annual Reporting of Managed Operation, Maintenance, and Monitoring**

The annual reporting period is from July 1 of the preceding year through June 30 of the reporting year. Annual reporting is the responsibility of the property owner, and DEQ recommends that the property owner have their O&M entity or service provider compile and submit their annual report. The property owner responsible for the treatment system under IDAPA 58.01.03 shall ensure the following annual reporting requirements are met:

1. Annual report for each property owner shall include these items:
  - a. A copy of the maintenance records for the reporting period as required under section 1.9.1.
  - b. A copy of all laboratory records for effluent sampling as described in section 1.9.2 (if required).
  - c. A copy of each chain-of-custody form associated with each effluent sample as described in section 1.9.2 (if required).
2. If an O&M entity or service provider is fulfilling annual reporting requirements for their property owners, then DEQ recommends that the following additional information be included within the annual report:
  - a. A current list of all O&M entity or service provider contracted property owners within the health district to which the annual report was submitted.
  - b. The property owner list should clearly identify which property owners the O&M entity or service provider is contracted with for annual reporting requirements and the status of each property owner in regards to completing the annual reporting requirements.
  - c. If annual reporting requirements are not complete for any property owner who the O&M entity or service provider is responsible for providing the annual report, then an explanation should be included with that property owner's records within the annual report.
3. Annual report exemptions
  - a. A property owner may be exempt from effluent testing based upon extreme medical conditions.  
Annual O&M on the property owner's treatment system shall not be exempt due to medical conditions, and record of annual O&M shall still be submitted with the member's annual report.
  - b. An O&M entity or service provider contracted by a property owner to fulfill annual reporting requirements may be exempt from reporting annual OMM for an individual property owner if that owner's activities fall within the guidelines of section 1.9.5.  
The O&M entity or service provider should still report the activities described in section 1.9.5 for each property owner exempt from annual reporting based on the guidelines in section 1.9.5.
4. Annual reporting process
  - a. The annual report shall be submitted to the local health district by the property owner, O&M entity, or service provider on behalf of the property owner no later than July 31 of each year for the preceding 12-month period.



The annual report shall be submitted to the local health district that issued the subsurface sewage disposal permit.

- b. The local health district shall provide the O&M entity **or service provider** a written response within 45 days of receipt of the annual report detailing compliance or noncompliance with septic permit requirements.
  - i. The O&M entity **or service provider** should inform individual **property owners** of their compliance status.
  - ii. All correspondence from the health district regarding a noncompliant annual report shall be copied to DEQ.

5. Delinquent annual reports

- a. If the property owner, O&M entity, **or service provider** contracted to submit the **property owner's** annual report does not submit the annual report by July 31 of the reporting year, **then** the local health district shall send the property owner, O&M entity, **or service provider** contracted to submit the **property owner's** annual report, a reminder letter providing a secondary deadline of August 31 of the reporting year for the annual report submission. The reminder letter shall detail the report requirements and that failure to submit the annual report by the secondary deadline will result in the health district forwarding a notice of nonreport to DEQ. DEQ may seek any remedy available under IDAPA 58.01.03 including, without limitation, requiring the property owner to replace the treatment system with another system, as outlined in section 1.9.4.
- b. All correspondence from the health district regarding delinquent annual reports shall be copied to DEQ.

#### **1.9.4 Treatment System Failure, Disapproval, and Reinstatement**

Commercially manufactured wastewater treatment systems must be approved by DEQ (IDAPA 58.01.03.009.01). Installation of **a commercially manufactured wastewater treatment system** requires a subsurface sewage disposal permit pursuant to IDAPA 58.01.03.005. **In addition, commercially manufactured wastewater treatment systems** are alternative systems that must be approved by the director pursuant to IDAPA 58.01.03.004.10. As part of the alternative system approvals for **commercially manufactured wastewater treatment systems**, DEQ defines the specific circumstances under which the **treatment systems** may be installed, used, operated, and maintained within **alternative treatment system guidance** (IDAPA 58.01.03.009.03 and 58.01.03.005.14).

If **a commercially manufactured wastewater treatment** product is not shown to be installed, used, operated, or maintained **in accordance with DEQ requirements**, **then** DEQ may pursue enforcement against a property owner and seek those remedies available under IDAPA 58.01.03. Enforcement and remedies against the property owner may include a determination that the **treatment system** has failed and the requirement that the property owner replace the **treatment system** with a different system authorized by DEQ. Replacement may include installing another **commercially manufactured wastewater treatment system** approved by DEQ, or engineering and installing another alternative system that is capable of meeting the requirements of the property owner's subsurface sewage disposal permit. If **a commercially manufactured wastewater treatment system** is not shown to comply or consistently function in compliance with IDAPA

58.01.03 and specified OMM requirements, DEQ may disapprove the commercially manufactured wastewater treatment product. Reasons for DEQ enforcement, which may include seeking remedies against a property owner or disapproval of a commercially manufactured wastewater treatment product as outlined herein, include, but are not limited to, the following:

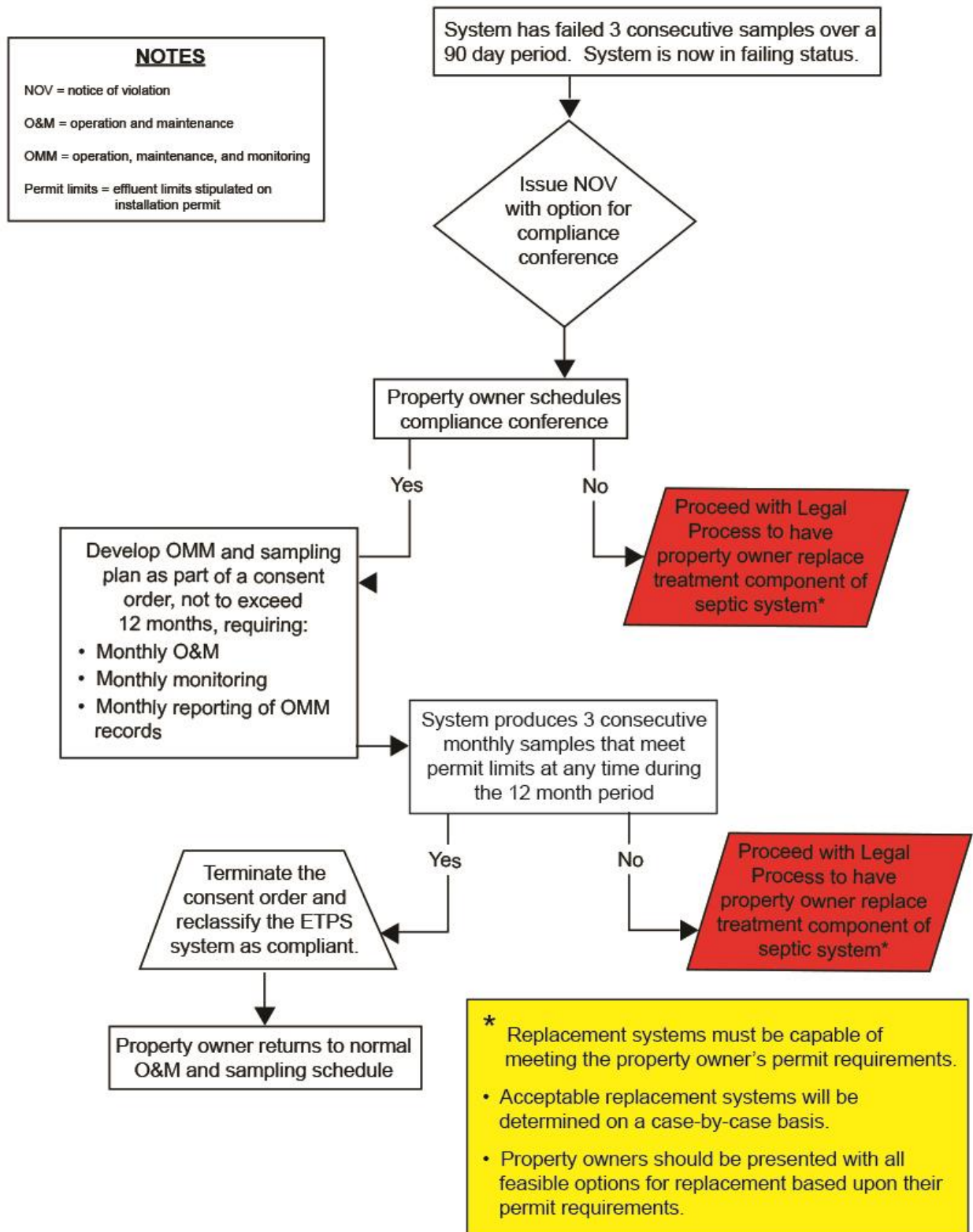
1. Failure to submit an annual report by the secondary deadline of August 31.
2. Annual reports for a particular commercially manufactured wastewater treatment product identify a malfunctioning system rate of 10% or more.  
Malfunctioning systems are defined as any system that fails to receive annual O&M or exceeds the effluent reduction levels for any constituent specified in the subsurface sewage disposal permit (i.e., TSS, CBOD<sub>5</sub>, or TN).
3. Property owner's commercially manufactured wastewater treatment product has been determined to be a failing system. Failing commercially manufactured wastewater treatment systems are defined in section 1.9.2.

#### **1.9.4.1 Failing System Enforcements**

The regulatory authority shall follow the procedures below upon determination that a wastewater treatment system has been determined to be a failing system (Figure 1-2):

1. When the regulatory authority is notified that a system is failing, a notice of violation (NOV) shall be issued to the property owner. The property owner shall have the opportunity to hold a compliance conference with the regulatory authority to enter into a consent order.
2. Consent orders should allow a property owner a 12-month period to return the system to proper operation or replace the failing system.
  - a. Over this 12-month period, the property owner should have their O&M entity or service provider service the wastewater treatment system at least monthly.
  - b. Monthly effluent samples should be taken by the O&M entity or service provider until the wastewater treatment system passes 3 consecutive monthly samples.  
Three consecutive passing monthly samples taken 1 month apart would be cause for the regulatory authority to terminate the consent order and NOV, and reclassify the system as compliant.
  - c. OMM records as described in section 1.9.1 and 1.9.2 should be submitted to the regulatory authority on a monthly basis as part of the consent order.
  - d. If the commercially manufactured wastewater treatment system cannot produce 3 consecutive monthly samples over the 12-month period, then the system may be replaced with another alternative system that meets the effluent quality requirements based upon applicable site conditions.
  - e. Replacement systems must meet the treatment requirements of the original septic permit. Appropriate replacement systems will be determined on a case-by-case basis.





**Figure 1-2. Failing wastewater treatment system enforcement flowchart.**

#### **1.9.4.2 Commercially Manufactured Wastewater Treatment System Disapproval**

In addition to determining a particular system is a failing system as set forth in section 1.9.4.1, if DEQ determines that a commercially manufactured wastewater treatment system cannot consistently function in compliance with IDAPA 58.01.03, then DEQ may disapprove the product (IDAPA 58.01.03.009.04). A written notice of DEQ's intent to disapprove the commercially manufactured wastewater treatment system will be provided following Idaho Code §67-52 and sent to the wastewater treatment system manufacturer, O&M entity or service provider, and health districts. The commercially manufactured wastewater treatment system manufacturer will be allowed an opportunity to respond prior to product disapproval. Upon disapproval of a manufacturer's wastewater treatment system product line, the health districts shall not issue septic permit on new application for the commercially manufactured wastewater treatment system product line from the disapproved manufacturer. OMM requirements for existing installations of the commercially manufactured wastewater treatment system product line will not be affected by the product disapproval (Figure 1-3).

#### **1.9.4.3 Commercially Manufactured Wastewater Treatment System Reinstatement**

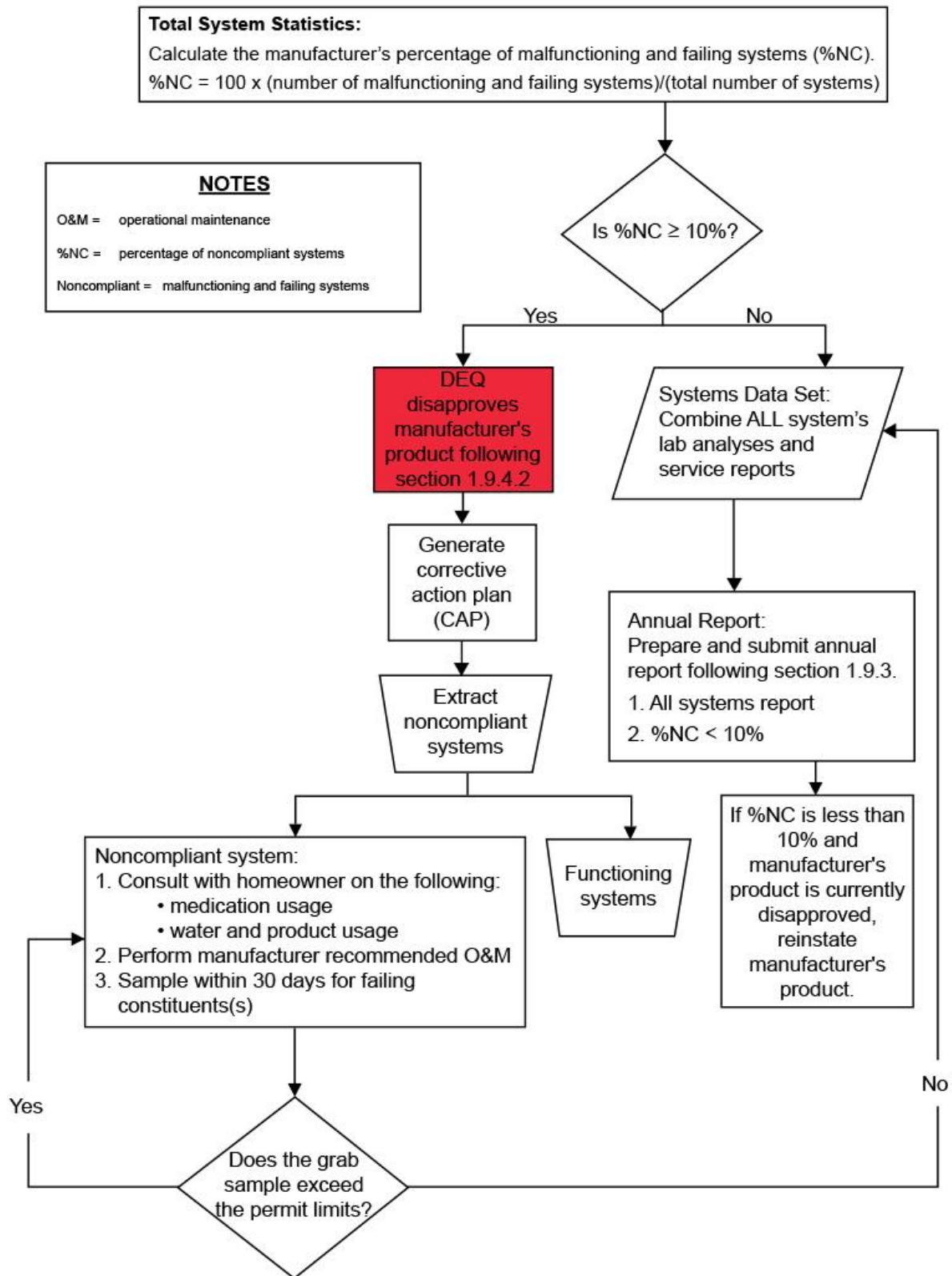
Upon commercially manufactured wastewater treatment system product disapproval, DEQ will provide the manufacturer the opportunity to enter into a corrective action plan (CAP) for product reinstatement. The CAP should establish the time frame to return the noncomplying or failing systems to proper operation. The product disapproval will remain in effect until the malfunctioning and failing system rate for the manufacturer's technology is below 10%.

#### **1.9.5 Property Owner Refusal of Operation, Maintenance, or Monitoring Requirements**

Individual property owners are responsible for ensuring their O&M entity or service provider can meet the annual OMM requirements for their wastewater treatment system. Failure of an individual property owner to permit the O&M entity or service provider from carrying out the required OMM services is considered a violation of IDAPA 58.01.03.012.01. Actions engaged in by a property owner toward the O&M entity or service provider that may be considered a refusal of service action by a property owner, include, but are not limited to, the following:

1. Refusal to allow annual operation, maintenance, or monitoring (e.g., refusal to pay annual dues preventing the financial capability of service or denial of property access).
2. Refusal to maintain the wastewater treatment system in operating condition (e.g., refusal to replace broken components or refusal to provide electricity to the unit).
3. If the refusal of service continues through the annual reporting period, then the O&M entity or service provider should substitute and submit the following documents in the annual report for property owners refusing service that the O&M is contracted with:
  - a. Copies of all correspondence and associated certified mail receipts documenting the property owner's receipt of the correspondence regarding the refusal of service. Refusal of service by a property owner through nonpayment should include documentation of a lien being placed on the individual's property.

- b. If the documentation is not included within the annual report, there will be insufficient documentation of the property owner's refusal to allow OMM, and therefore, the lack of OMM may count against the malfunctioning rate for the wastewater treatment system product.



**Figure 1-3. ETPS product disapproval process based upon annual reports.**

## **Refusal of Service Enforcement Procedures**

Upon receipt of an annual report showing that individual **property owners** have refused to allow maintenance and monitoring as described in section 1.9.5, the following guidelines apply:

1. The regulatory authority shall issue Letter 1 with the associated enclosure provided in the DEQ program instruction, “Extended Treatment Package System Education and Enforcement Letters.”
  - a. Letter 1 shall be sent to the property owner by certified mail and copied to the associated O&M entity **or service provider**.
  - b. The property owner is responsible for working with the regulatory authority and the O&M entity **or service provider** to address their delinquent responsibilities. The O&M entity **or service provider** should contact the regulatory authority and associated property owner 30 days after receiving Letter 1 to inform the regulatory authority of the property owner’s voluntary compliance status.
2. If the property owner fails to voluntarily comply with the 30-day time frame, then the regulatory authority shall issue Letter 2 provided in the DEQ program directive, “Extended Treatment Package System Education and Enforcement Letters.”
  - a. Letter 2 shall be sent to the property owner by certified mail and copied to the associated O&M entity **or service provider**.
  - b. The property owner is responsible for working with the regulatory authority and **their** O&M entity **or service provider** to address their delinquent responsibilities. The O&M entity **or service provider** should contact the regulatory authority and associated property owner by the voluntary compliance date provided in Letter 2 to inform the regulatory authority of the property owner’s voluntary compliance status.
3. If the property owner fails to voluntarily comply by the date provided in Letter 2, then the regulatory authority may issue a NOV to the property owner to ensure compliance with the property owner’s subsurface sewage disposal permit requirements for the ETPS unit.